

REMARKS

In response to the Office Action mailed February 6, 2008, Applicant respectfully requests reconsideration. Claims 1-14 were previously pending in this application. By this amendment, new claims 15-31 have been added. As a result, claims 1-31 are pending for examination with claims 1, 7, 8, 15 and 20 being independent. No new matter has been added.

Allowable Subject Matter

As a preliminary matter, Applicant thanks the Examiner for the indication of allowable subject matter in claims 6 and 13. The Office Action states that claims 6 and 13 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. New independent claim 15 includes subject matter of claim 6 and its base claim 1 and new independent claim 20 includes subject matter of claim 13 and its base claim 8.

Rejections Under 35 U.S.C. §103

The Office Action rejected claims 1-5, 7-12 and 14 under 35 U.S.C. 103(a) as allegedly being unpatentable over Allan et al., U.S. Patent No. 4,220,928 ("Allan") in view of Huang et al., U.S. Patent No. 5, 267,246 ("Huang"). Applicant respectfully disagrees.

A. Independent Claim 1

Claim 1, as amended, recites:

A method for transmitting digital messages through output terminals of a monitoring circuit integrated with a microprocessor, said messages being representative of determined events occurring on execution of instructions by the microprocessor, comprising:

after or before transmission of at least one specific digital message associated with a specific event, transmitting a correlation message comprising an identifier of said specific digital message and a counter of a number of instructions executed by the microprocessor between an instruction associated with the transmission of said specific message and an instruction associated with transmission of a selected previous digital message.

(Emphasis added).

On page 1 and 2, the Office Action states that Allan teaches the limitations of claim 1 in Col. 2, line 64 – Col. 3, lines 15. In this portion, Allan teaches that [a] special pre-data-transfer

instruction indicates to a disk drive **the duration** of the interrupt signal for each prioritized data block. (Allan, col. 2, lines 64-47). (Emphasis added). A circuit is disclosed which receives a digital command, issues an interrupt and **extinguishes the interrupt at the end of the extended interrupt duration**. (Allan, col. 2, line 67 – Col. 3, line 2). (Emphasis added). Therefore, the pre-data-transfer instruction of Allan indicates the duration of the interrupt signal that is *to be issued* by the circuit. (Emphasis added). In contrast, claim 1 recites a correlation message that comprises, inter alia, a counter of *a number of instructions* executed by the microprocessor between a *current* digital message and a *previous* digital message. (Emphasis added). Moreover, it should be clear that the duration of an interrupt signal is different from a number of previously executed instructions.

On page 2, the Office Action concedes that Allan does not teach a method of the correlation message comprising an identifier of the specific digital message associated with an event. The Office Action then states that Huang discloses sending an identifier “in order to identify the one or more interrupts received [data with the interrupt indicating the type of interrupt received; Col. 7, lines 65-68.]” Huang describes that “the data sent to the SP along with the machine check interrupt indicates the number, location, level(type), and sequence of the machine checks.” (Huang, col. 7, lines 65-68). However, Huang does not teach a correlation message comprising an identifier of a specific digital message, as recited in claim 1. Moreover, data indicating the level(type) of the machine check of the interrupt is sent *along with the machine check interrupt*. (Emphasis added). In contrast, claim 1 recites transmitting a correlation message *after or before transmission of at least one specific digital message* associated with a specific event. (Emphasis added).

Furthermore, the interrupts of Huang are machine check interrupts. Indeed, Huang discusses that when a machine check is detected in the processor, an interrupt is presented to the Support Processor (SP) indicating *service is required*. (Huang, col. 1, lines 16-18). The machine check may be, for example, a system machine check or a maintenance type check. (Huang, col. 2, lines 37-38). Allan is directed to accessing data blocks in a computer system having multiple-disk drive rotational position sensing which is not centrally synchronized and where data read and write requests are normally weighted by the order of availability of requested data blocks. (Allan, Abstract.) The weighting of the priority of selected data blocks is modified by advancing the apparent initial location of data blocks designated for preferential

access and maintaining *an availability signal, or peripheral interrupt*, for an extended period. (Allan, Abstract.) A special pre-data-transfer instruction indicates the duration of the peripheral interrupt. (Allan, Abstract.) Therefore, it appears that, in Allan, there *is no need* to add to the pre-data-transfer instruction the type of interrupt, as suggested in the Office Action. The purpose of the pre-data-transfer instruction is to indicate the duration of the *peripheral interrupt indicating availability of a data block* on a track of a mass storage device. Accordingly, the type of the interrupt, particularly a type of *a machine check* interrupt described in Huang, is not required in pre-data-transfer instruction of Allan because this instruction is issued for a particular type of the interrupt, i.e. an interrupt signal indicating availability of a data block. Moreover, while the instruction of Allan is sent prior to data transfer, in Huang, data indicating the level(type) of the machine check of the interrupt is sent *along with the machine check interrupt*. (Emphasis added). Therefore neither Allan nor Huang teach or suggest all limitations of claim 1 and there is no motivation to combine the references.

Accordingly, claim 1 patentably distinguishes over Allan and Huang, either alone or in combination.

Claims 2-6 depend from claim 1 and are allowable for at least the same reasons.

Therefore, withdrawal of the rejection of claims 1-6 is respectfully requested.

B. Independent Claim 7

Claim 7, as amended, recites:

A device for transmitting digital messages through output terminals of a monitoring circuit integrated with a microprocessor, said digital messages being representative of determined events occurring on execution of instructions by the microprocessor, comprising:

means for detecting whether a digital message to be transmitted by the monitoring circuit is of a specific type; and

means for *transmitting, after or before transmission of a digital message of said specific type, a correlation message, said correlation message comprising an identifier of said specific digital message and a counter of a number of instructions executed by the microprocessor between an instruction associated with the transmission of the specific digital message and an instruction associated with transmission of a selected previous digital message.*

(Emphasis added).

As discussed above, neither Allan nor Huang teach or suggest “transmitting, after or before transmission of a digital message of said specific type, a correlation message, said

correlation message comprising an identifier of said specific digital message and a counter of a number of instructions executed by the microprocessor between an instruction associated with the transmission of the specific digital message and an instruction associated with transmission of a selected previous digital message,” as recited in claim 7.

Accordingly, claim 7 patentably distinguishes over Allan and Huang, either alone or in combination.

Therefore, withdrawal of the rejection of claim 7 is respectfully requested.

C. Independent Claim 8

Claim 8, as amended, recites:

A system comprising:

a microprocessor, for transmitting digital messages representative of events occurring on execution of instructions by the microprocessor; and
means for *transmitting, after or before transmission of at least one digital message associated with an event, a correlation message comprising at least an identifier of the digital message and a counter comprising a number of instructions executed by the microprocessor between an instruction associated with the transmission of the digital message and an instruction associated with transmission of a previous digital message.*

(Emphasis added).

As discussed above, neither Allan nor Huang teach or suggest “transmitting, after or before transmission of at least one digital message associated with an event, a correlation message comprising at least an identifier of the digital message and a counter comprising a number of instructions executed by the microprocessor between an instruction associated with the transmission of the digital message and an instruction associated with transmission of a previous digital message,” as recited in claim 8.

Accordingly, claim 8 patentably distinguishes over Allan and Huang, either alone or in combination.

Claims 9-14 depend from claim 8 and are allowable for at least the same reasons.

Therefore, withdrawal of the rejection of claims 8-14 is respectfully requested.

New Claims

New independent claim 15 includes subject matter of claim 1 and allowable claim 6 and is therefore allowable.

New claims 16-19 depend from claim 15 and are allowable for at least the same reasons.

New independent claim 20 includes subject matter of claim 8 and allowable claim 13 is therefore allowable.

New claims 21-25 depend from claim 20 and are allowable for at least the same reasons.

New dependent claims 26-31 depend from claim 7 and are allowable for at least the same reasons.

CONCLUSION

A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Dated:

Respectfully submitted,

By 

James H. Morris

Registration No.: 34,681

WOLF, GREENFIELD & SACKS, P.C.

Federal Reserve Plaza

600 Atlantic Avenue

Boston, Massachusetts 02210-2206

617.646.8000